

CLAIMS:

1. A method for detecting voltage disturbances in a voltage waveform of an alternating-current power system comprising the steps of:

- detecting when the deviation of the voltage waveform of the alternating-current power system from a reference waveform exceeds a predetermined voltage threshold;
- initiating integration of the difference between the voltage waveform of the alternating-current power system and the reference waveform at the time the deviation of the detecting step exceeds the predetermined voltage threshold; and
- 10 comparing the result of said integration step to a predetermined threshold value to establish a particular voltage disturbance when said result exceeds said predetermined threshold value.

2. The method of claim 1 wherein said predetermined threshold value is varied based on the point on the voltage waveform at which said integration was initiated.

3. The method of claim 1 wherein said integration is initiated only if the point on the waveform is within first predetermined portions of the waveform.

20 4. The method of claim 3 wherein said predetermined portions exclude second predetermined portions about the zero crossing points of the waveform.

25 5. The method of claim 1 wherein said integration is performed over a predetermined time interval.

6. The method of claim 5 wherein said predetermined time interval is determined to prevent response to switching transients.